

NAG/DAGA International Conference on Acoustics 2009

including the 35th German Annual Conference on Acoustics (DAGA)

**Rotterdam, The Netherlands
23-26 March 2009**

Volume 1 of 3

Editors:

Marinus M. Boone

ISBN: 978-1-61839-199-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2009) by NAG/DAGA 2009
All rights reserved.

Printed by Curran Associates, Inc. (2011)

For permission requests, please contact NAG/DAGA 2009
at the address below.

NAG/DAGA 2009
P.O. Box 66
6585 ZH Mook, The Netherlands

Phone: +31 24-35-70742
Fax: +31 24-35-85150

secr@nag-daga.nl

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

OVERVIEW

VOLUME I

Plenary lectures	1
Pre colloquium (Monday) ...	30
Array technology in audio and acoustics	30
Posters.....	58
Posters 1 (Tuesday)	58
Posters 2 (Wednesday)	114
Lectures (Tuesday)	172
Binaural systems.....	172
CAE methodologies for vibration and acoustics ..	202
Finite element models.....	228
History of acoustics	238
Hydroacoustics	262
Medical ultrasound	297
Music processing	336
Psychoacoustics 1	365
Sound scaping and sound masking.....	399
Speech in car 1.....	407
Structure-borne sound in buildings	449
Teaching and education.....	490
Tire-road noise.....	498
Variable acoustics.....	524
Vehicle acoustics	557

VOLUME II

Lectures (Wednesday)	567
Active noise control 1	567
Aeroacoustics on vehicles...	592
Audio Technology	606
Bio-acoustics.....	621
Boundary Elements 1.....	629
Boundary Elements 2.....	661
Building acoustics 1.....	681
Cavitation 1.....	712
Flow acoustics.....	717
Low frequency noise.....	741
New aspects of transferpath analysis	761
Noise at workplace.....	796
Noise control 1	828
Physics of musical instruments 1.....	854
Physics of musical instruments 2.....	879
Quality classes in buildings	900
Railway noise 1	924
Room acoustics 1	929
Room acoustics 2	961
Sound quality and soundscapes	984
Source identification 1	1013
Source identification 2.....	1039
Spatial audio 1	1063
Spatial audio 2	1096
Speech in car 2.....	1122
Speech perception 1	1144
Speech perception 2	1149
Tram noise	1180

VOLUME III

Lectures (Thursday).....	1208
Active noise control 2	1208
Aeroacoustics 1	1232
Aeroacoustics 2	1252
Audiological acoustics	1266
Auditory processing 1	1291
Auditory processing 2	1306
Building acoustics 2	1323
Cavitation 2	1348
Electro-acoustics	1367
Environmental acoustics 1	1380
Environmental acoustics 2	1408
Localisation of sound sources on vehicles.....	1428
Modelling in room acoustics	1444
Musical acoustics	1474
Noise	1494
Noise control 2	1503
Physical acoustics.....	1509
Psychoacoustics 2.....	1518
Psychoacoustics 3.....	1544
Railway noise 2	1560
Signal processing	1580
Sound propagation	1608
Source identification 3	1626
Speech	1633
Speech perception 3	1663
Structural-acoustic optimization	1675
Ultrasound	1703
Voice production 1	1711
Voice production 2	1744

Please note: All manuscripts that have been submitted are included in these proceedings.

Invited abstracts are marked as [I], contributed abstracts are marked as [C].

TABLE OF CONTENTS - VOLUME I

Plenary lectures

Tuesday, 24 March 2009

The acoustical engineer as a researcher in speech and hearing <i>T. Houtgast</i> [I]	1
---	---

Wednesday, 25 March 2009

Then and now - how concert hall design of the 1960s and '70s compares with the present <i>M. Barron</i> [I]	4
Reciprocity measurements in acoustical and mechano-acoustical systems. Review of theory and applications <i>T. ten Wolde</i> [I]	10

Thursday, 26 March 2009

Uncertainties in Applied Acoustics - Determination and Handling <i>V. Wittstock</i> [I]	22
--	----

Precolloquium (Monday)

Array technology in audio and acoustics

Medical acoustical array expertise at Delft University of Technology <i>K.W.A. van Dongen, E.J. Alles and L. Demi</i> [I]	30
Plane wave decomposition: an inverse problem in array processing <i>L. Hörchens and D. de Vries</i> [I]	34
High resolution reconstruction of irregularly sampled, aliased measurements <i>D.J. Verschuur and H. Kutscha</i> [I]	38
Estimation of primaries in seismic measurements by sparse inversion <i>G.-J. van Groenestijn and D.J. Verschuur</i> [I]	42
Optimized microphone arrays for the hearing glasses <i>M.M. Boone</i> [I]	46
Deriving Room Acoustical Parameters Using Arrays and Hearing Models <i>J. van Dorp Schuitman and D. de Vries</i> [I]	50
On the applications of array technology in room acoustics <i>A. Schlesinger and D. de Vries</i> [I]	54

Posters

Tuesday, 24 March 2009

Posters 1

On the Inverse Music Sequencer Operation - Detection of Music Components from Wave Table in a Complex Music Signal <i>S. Albrecht</i> [C]	58
Effect of airborne sound on installation noise - Part 1: Basic investigations <i>M. Ebersold, L. Weber, S. Öhler and M. Blau</i> [C]	61
Survey on common Arabic Language forms from a speech recognition point of view <i>M. Elmahdy, R. Gruhn, W. Minker and S. Abdennadher</i> [C]	63
Silent Owl Flight: Setup for Flyover Noise Measurements <i>C. Fritzsche, E. Sarradj and T. Geyer</i> [C]	67
Combining Auditory Inspirations and Hierarchical Feature Extraction for Robust Speech Recognition <i>M. Heckmann, X. Domont, F. Joublin and C. Goerick</i> [C]	70
Joint Speaker Identification and Speech Recognition for Speech Controlled Applications in an Automotive Environment <i>T. Herbig and F. Gerl</i> [C]	74
Influence of Short Term Noise on Concentration and Human Performance <i>M. Horvat, K. Jambrosic and H. Domitrovic</i> [C]	78
The design of an in-situ absorption measuring system using the Adrienne method <i>K. Jambrosic, M. Horvat and M. Suhanek</i> [C]	81
Sound Radiation of Double Reed Woodwinds <i>F.B. Konkel, A. Jakob, F. Heintze and M. Möser</i> [C]	85
Comparing Acoustic Model Adaption Methods for Non-native Speech Recognition <i>H. Lang, M. Raab, R. Gruhn and W. Minker</i> [C]	87
Feature Extraction for Speech Recognition <i>C. Lüke and K. Schnell</i> [C]	91
The measurement uncertainty and validation of automatic unmanned noise monitoring installations <i>R. Muchall</i> [C]	94
Effect of airborne sound on installation noise - Part 2: Practical application <i>S. Öhler, L. Weber and J. Mohr</i> [C]	97
Nearfield noise source localisation with constant directivity arrays: a comparison - Application to tram noise <i>M.-A. Pallas and R. Perrier</i> [C]	100
Controllable acoustic bubble traps <i>H. Söhnholz, T. Kurz and W. Lauterborn</i> [C]	104
Noise control by hedges and woods <i>M. Späh, L. Weber and T. Oesterreicher</i> [C]	108
Climatological and regional analysis of sound level attenuation <i>M. Wilsdorf, A. Ziemann and A. Raabe</i> [C]	111

TABLE OF CONTENTS - VOLUME I

Wednesday, 25 March 2009

Posters 2

Estimation of spatially distributed temperature and flow fields in air using acoustic travel-time tomography <i>M. Barth, M. Wilsdorf and A. Raabe</i> [C]	114
Spectral Restoration of Narrowband Speech Recordings Supported by Phonetic Transcriptions <i>P. Bauer and T. Fingscheidt</i> [C]	118
Perception tests with a replica of von Kempelen's 'speaking machine' <i>F. Brackhane</i> [C]	122
PU nosecone intensity measurements in a wind tunnel <i>H.-E. de Bree and E. Tijs</i> [C]	126
Transmission of noise through a pipe as structure-borne sound and fluid sound <i>S. Buss, M. Wildemann and F. Hartmann</i> [C]	129
Superdirective Beamforming Using an Extended Modal Subspace Decomposition <i>M. Eichler and A. Lacroix</i> [C]	133
Acoustic services at Philips Applied Technologies <i>A. Geerlings and B. Roozen</i> [C]	137
Speech intelligibility prediction for normal hearing and hearing impaired subjects - MCHI-S <i>L. Goenner and J. Haubold</i> [C]	138
Comodulation masking release with time-varying spectra <i>H. Heidemann, J.L. Verhey and B. Epp</i> [C]	141
Ferroelectret-film accelerometers with high sensitivities <i>M. Kodejska, J. Hillenbrand and G.M. Sessler</i> [C]	144
Smart Noise Reduction Based on Reliability of Direction-of-arrival Estimate <i>M. Mizumachi</i> [C]	146
Generation of short ultrasonic pulses using active damping <i>J. Rautenberg, S. Olfert and B. Henning</i> [C]	148
Open Plan Office Acoustics: A Case Study in a Real Office <i>C. Reich Marcon Passero and P.H. Trombetta Zannin</i> [C]	152
Effect of Inverted Geometric Parameters on Normal Incidence Sound Absorption and Transmission Loss <i>P. Shravage</i> [C]	155
A PU sound probe for high noise levels <i>E. Tijs and H.-E. de Bree</i> [C]	159
Estimating physical properties of vocal fold paralysis from high-speed filming data <i>I. Tokuda, M. Kimura, H. Imagawa, K.-I. Sakakibara and N. Tayama</i> [C]	161
Measurement of Head Related Impulse Responses for psychoacoustic research <i>F. Völk, M. Straubinger, L. Roalter and H. Fastl</i> [C]	164
Coding of speech into nerve-action potentials <i>M. Holmberg, H. Wang, M. Isik and W. Hemmert</i> [C]	168

Lectures (Tuesday)

Tuesday, 24 March 2009, 14:00

Binaural systems

Structured session (organisation: J. Fels, M.M. Boone)

Parametric Binaural Synthesis: Background, Applications and Standardization <i>J. Breebaart, F. Nater and A. Kohlrausch</i>	172
Preserving binaural hearing of hearing impaired subjects with binaural noise reduction systems for hearing aids <i>T. van den Bogaert, S. Doclo, J. Wouters and M. Moonen</i>	176
On the application of auditory scene analysis in hearing aids <i>A. Schlesinger and M.M. Boone</i>	180
Source Positioning in a Two listener Crosstalk Cancellation System <i>B. Masiero</i>	184
Application of binaural technology in an adaptive auditory speech test for children <i>J. Fels, F. Coninx and W.H. Döring</i>	188
Spatial coherence in binaural applications <i>R. Scharrer</i>	192
A Boundary Element model to calculate HRTFs. Comparison between calculated and measured data <i>W. Kreuzer, P. Majdak and A. Haider</i>	196
Just Noticeable BRIR Grid Resolution for Lateral Head Movements <i>F. Schultz, A. Lindau and S. Weinzierl</i>	200

Tuesday, 24 March 2009, 14:00

CAE methodologies for vibration and acoustics

Structured session (organisation: S. Marburg, B. Pluymers, W. Desmet)

Limits of Finite Element Methods in the Mid-Frequency Range <i>A. Hüppe and M. Kaltenbacher</i>	202
Wave Based Prediction Technique for Sound Radiation Analysis <i>J. Rejlek, T. Mocsai, P. Silar, A. Hepberger and H.-H. Priebsch</i>	206
Hybrid FEM/SEA model of an aircraft fuselage section <i>A. Peiffer and S. Tewes</i>	210
Energy resolution of complex vibro-acoustic problems <i>N. Totaro and J.-L. Guyader</i>	213
Vibro-Acoustic Simulation of Structure-borne Induced Radiation of Ship Windows <i>B. van Antwerpen, D. d'Udekem and C. Weißenborn</i>	216
Automated modelling procedure for acoustic Wave Based Technique models <i>G. Müller and T. Bartosch</i>	220
Design and Tests of Thermoplastic Textile-reinforced Composite Trays for Vibro-acoustic Relevant Applications <i>W. Hufenbach, M. Dannemann, S. Friebe, F. Kolbe and M. Krahl</i>	224

TABLE OF CONTENTS - VOLUME I

Tuesday, 24 March 2009, 17:00

Finite element models

Structured session (organisation: S. Langer, J.-P. Coyette)

Modal Analysis of a Fluid inside and around a Recorder <i>S. Fuß and S. Marburg [I]</i>	228
Computational Acoustics based on Conservation Equations using Taylor Hood Finite Elements <i>M. Kaltenbacher and A. Hüppe [I]</i>	230
Fast FE-Analysis and Measurement of the Hydraulic Transfer Function of Pipes with Non-Uniform Cross Section <i>J. Herrmann, M. Spitznagel and L. Gaul [C]</i>	234

Tuesday, 24 March 2009, 14:00

History of acoustics

Structured session (organisation: R. Hoffmann, R. M. Aarts)

What do the acoustics of the 'occidental' Europe owe the Arabs? <i>P. Költzsch [I]</i>	238
The History of the Compact Disc <i>K. Schouhamer Immink [I]</i>	242
Acoustical and electro-acoustical sound fields - the beginnings in Gravesano 1954 <i>E.-J. Völker [C]</i>	246
Development of Dutch sound locators to detect airplanes (1927 - 1940) <i>A. van der Voort and R. Aarts [I]</i>	250
History and development of Pipe Organs in The Netherlands <i>C. Doesburg [I]</i>	254
Measuring Frequencies with Historic Resonators from SCHAEFER <i>R. Hoffmann, D. Mehnert, R. Dietzel and G. Fuder [I]</i>	258

Tuesday, 24 March 2009, 14:00

Hydroacoustics

Structured session (organisation: J. Abshagen, C. de Jong)

Measurements of Construction Noise During Pile Driving of Offshore Research Platforms and Wind Farms <i>R. Matuschek and K. Betke [I]</i>	262
Temporal and Spectral Characteristics of a Marine Piling Operation in Shallow Water <i>P. Lepper, S. Robinson, J. Abblitt and S. Dible [I]</i>	266
Risk Mitigation for Sea Mammals - The Use of Air Bubbles Against Shock Waves <i>E. Schmidtke, B. Nützel and S. Ludwig [I]</i>	269
Characterization of Ships as Sources of Underwater Noise <i>C. de Jong [I]</i>	271
Acoustic Monitoring of a Failing Dike <i>T. Basten, A. Volker and P. Toet [C]</i>	275
Using Multivariate Methods (PCA) for the Online Prediction of Underwater Radiated Sound <i>I. Pascher and C. Zerbs [C]</i>	277
Model Scale Measurements of Surface Ship Radiated Flow Noise <i>C. de Jong, J. Bosschers and H. Hasenpflug [C]</i>	279

TABLE OF CONTENTS - VOLUME I

Estimation of Underwater Flow Noise by Wave Number Decomposition <i>J. Abshagen</i> [C]	283
Radiation of ship windows induced by structure-borne sound <i>S. Semrau and C. Weißenborn</i> [C]	285
Investigation of the resonance frequency of a cavitating vortex <i>J. Bosschers</i> [C]	289
Frequency Dependent Attenuation of Oscillations in Fluid-filled Pipes and Orifices <i>J. Koreck and O. von Estorff</i> [C]	293

Tuesday, 24 March 2009, 14:00

Medical ultrasound

Structured session (organisation: G. Schmitz, K.W.A. van Dongen)

Modeling Pulsed Nonlinear Ultrasound for Medical Applications: the INCS Method <i>M. Verweij and J. Huijsen</i> [I]	297
Application of Volterra Series to Ultrasound Imaging <i>M. Schiffner, M. Mleczko and G. Schmitz</i> [I]	301
Results of an Experimental Study for 3D Ultrasound CT <i>N. Ruiter, G. Schwarzenberg, M. Zapf, A. Menshikov and H. Gemmeke</i> [I]	305
Contrast Enhanced Optoacoustics for Molecular Imaging <i>M. Fournelle, W. Bost, S. Wagner, F. Stracke and R. Lemor</i> [I]	309
Comparison of Coding Techniques for Photoacoustic Coded Excitation <i>M. Mienkina, A. Eder, C.-S. Friedrich, N. Gerhardt, M.R. Hofmann and G. Schmitz</i> [C]	313
Output Beam Characterization of Medical Diagnostic Ultrasound Systems Using a Thermal Technique for Intensity Measurements <i>V. Wilkens</i> [C]	317
Design of an Ultrasound Cylindrical Phased-Array for Hyperthermia Breast Cancer Treatment <i>K.W.A. van Dongen, J.F. Bakker, M.M. Paulides, I.-M. Obdeijn and G.C. van Rhoon</i> [C]	321
Metrology of HITU fields <i>K.-V. Jenderka, K. Beissner and J. Haller</i> [C]	325
Simulation of Large Spatial Domain Ultrasound Scattering Problems <i>E.J. Alles and K.W.A. van Dongen</i> [C]	328
Noniterative second harmonic ultrasound field simulations: an axisymmetric approach <i>N. Testoni, K. Hensel, M. Siepmann, N. Speciale and G. Schmitz</i> [C]	332

Tuesday, 24 March 2009, 14:00

Music processing

Structured session (organisation: B. Schuller, A. Kohlrausch)

Bridging Music Information Retrieval and Folk Song Research - The Computational Setup of the WITCHCRAFT Project <i>J. Garbers</i> [I]	336
Preprocessing methods for rhythmic mid-level features <i>C. Dittmar, M. Gruhne and D. Gaertner</i> [I]	340
Everything in its right place? - Learning a User's View of a Music Collection <i>K. Bade, A. Nürnberg and S. Stober</i> [I]	344
An Evaluation of using Chroma- and MFCC-based Features for Classifying Radio Transmissions <i>F. Kurth and D. von Zeddelmann</i> [I]	348

TABLE OF CONTENTS - VOLUME I

Handling Scanned Sheet Music and Audio Recordings in Digital Music Libraries <i>C. Fremerey, D. Damm, M. Müller, F. Kurth and M. Clausen</i> [I]	350
Towards timbre-invariant audio features for harmony-based music <i>S. Ewert, M. Müller and M. Clausen</i> [I]	352
Extracting Expressive Tempo Curves from Music Recordings <i>V. Konz, M. Müller and A. Scharfstein</i> [I]	354
Combination of Onset-Features with Applications to High-Resolution Music Synchronization <i>P. Grosche, M. Müller and S. Ewert</i> [I]	357
Blind Enhancement of the Rhythmic and Harmonic Sections by NMF: Does it help? <i>B. Schuller, A. Lehmann, A. Weninger, F. Eyben and G. Rigoll</i> [I]	361

Tuesday, 24 March 2009, 14:00

Psychoacoustics 1

Structured session (organisation: J. Hellbrück, H. Fastl, T. Houtgast)

Modulation perception and threshold fine structure: Simulations with a nonlinear cochlea model <i>B. Epp, J.L. Verhey, S.J. Heise and M. Mauermann</i> [C]	365
Modeling the masking of tones by Schroeder-phase harmonic tone complexes <i>E. Rasumow, M. Hansen and S.D. Ewert</i> [C]	368
Subband instantaneous-frequency analysis to determine masking with high temporal resolution for use in audio codecs <i>N. Koppaetzky, S.D. Ewert, B. Kollmeier and V. Hohmann</i> [C]	372
Evalution of a Nonlinear Auditory Filterbank with Instantaneous Frequency Control <i>R. Eilers, S.D. Ewert, J.L. Verhey and V. Hohmann</i> [C]	376
Temporal weighting in loudness perception: Effect of bandwidth <i>J.L. Verhey and J. Rennies</i> [C]	379
Loudness perception with headphone presentation compared to loudspeaker presentation in the diffuse field <i>S. Goossens, G. Bonin and R. Stumpner</i> [C]	382
Just-Noticeable Roughness Differences of Technical Sounds <i>A. Leutheuser, R. Sottek and J. Becker-Schweitzer</i> [C]	384
Comparison of loudness models for artificial and environmental sounds <i>J. Rennies and J.L. Verhey</i> [C]	388
Consonance/dissonance - evaluation of electrical machine noise <i>S. Fingerhuth</i> [C]	392
Precise stimulation in auditory neuroimplants <i>S.W. Kristiansen and H.-H. Bothe</i> [C]	395

Tuesday, 24 March 2009, 14:00

Sound scaping and sound masking

Structured session (organisation: B. Schulte-Fortkamp, K. Genuit, E. Gerretsen)

Informational masking and attention focussing on environmental sound <i>D. Botteldooren and B. de Coensel</i> [I]	399
The Potential and Benefit of Audible Noise Maps <i>K. Genuit, A. Fiebig and P. Marla</i> [I]	403

TABLE OF CONTENTS - VOLUME I

Tuesday, 24 March 2009, 14:00

Speech in car 1

Structured session (organisation: G. Klasmeyer, H.-W. Gierlich, J. Verhave)

Performance Analysis of Wavelet-based Voice Activity Detection <i>M. Jeub, D. Kolossa, R. Fernandez Astudillo and R. Orglmeister</i>	407 [I]
Optimal projections between Gaussian Mixture Feature Spaces for Multilingual Speech Recognition <i>M. Raab, O. Schreiner, T. Herbig, R. Gruhn and E. Nöth</i>	411 [C]
On the Estimation and Use of Feature Reliability Information for Noise Robust Speech Recognition <i>V. Leutnant and R. Häb-Umbach</i>	415 [I]
Improving Context Modeling for Phoneme Recognition <i>D. Vasquez, G. Aradilla, R. Gruhn and W. Minker</i>	419 [C]
Speed improvements in a Missing Data-based speech recognizer by Gaussian selection <i>Y. Wang and H. van Hamme</i>	423 [I]
Evaluation of missing data techniques for in-car automatic speech recognition <i>Y. Wang, R. Vuerinckx, J. Gemmeke, B. Cranen and H. van Hamme</i>	427 [I]
Reworking spoken dialogue systems with context awareness and information prioritisation to reduce driver workload <i>J.L. Blanco, Á. Sigüenza, D. Díaz, M. Sendra and L. Hernández</i>	431 [C]
Position Estimation of Car Occupants by Means of Speech Analysis <i>T. Machmer, A. Swerdlow, B. Kühn and K. Kroschel</i>	435 [I]
Robust Superdirective Beamforming for Hands-Free Speech Capture in Cars <i>E. Mabande, A. Schad and W. Kellermann</i>	438 [I]
Challenges in the introduction of wideband hands-free in cars <i>H.W. Gierlich</i>	442 [I]
Improving the User Experience with Spatial Auditory Displays <i>S. Pennock</i>	445 [I]

Tuesday, 24 March 2009, 14:00

Structure-borne sound in buildings

Structured session (organisation: W. Scholl, B. Ingelaere)

Prediction of the sound radiation from a plate excited by a structure-borne sound source <i>M. Lievens, P. Dietrich and C. Höller</i>	449 [I]
Experiences with characterising Simple Sources of Structure-borne Sound by the Two Plate Method <i>H. Bietz and V. Wittstock</i>	452 [I]
On force- and moment mobilities of a timber joist floor <i>A.R. Mayr, B. Gibbs and H.-M. Fischer</i>	456 [I]
Conception of test setups for investigations on the sound transmission from landings in the staircase test facility <i>C. Fichtel, T. Schneiderhan and J. Scheck</i>	460 [I]
Vibration behaviour and structure-borne sound transmission of a resiliently supported landing <i>E. Taskan, J. Scheck and H.-M. Fischer</i>	464 [I]
Side Effects of the ISO Tapping Machine as a Walking Noise Source <i>W. Scholl, H. Bietz and V. Wittstock</i>	468 [I]
Study of the Influence of Adjacent Elements on the Sound Level Decay of Heavy Building Structures by Means of Transient SEA <i>M. Schneider, F. Mack and H.-M. Fischer</i>	472 [I]

TABLE OF CONTENTS - VOLUME I

Vibration reduction indices at junctions with cavity walls <i>H. Martin, J. Smits, J. Niggebrugge, E. Gerretsen and L. van Luxemburg</i>	474 [C]
A Wave Based Model to predict the Airborne and Structure-Borne Sound Insulation of Finite-Sized Multilayered Structures <i>A. Dijckmans, G. Vermeir and W. Lauriks</i>	478 [C]
Combining Experiments for the Identification of the Parameters of Viscoelastic Materials <i>M. Schmelzer</i>	482 [C]
Building SEA Predictive Models to Support Vibro-Acoustic Ship Design <i>D. Blanchet and A.S. Matla</i>	486 [C]

Tuesday, 24 March 2009, 17:00

Teaching and Education

Introduction of a Laboratory Technical Acoustics at Heilbronn University (Germany) <i>G. Landstorfer, A.S. Treiber and G. Gruhler</i>	490 [C]
ADP: Practical experience in acoustics education <i>S. Buckert, A. Skowronek and K. Wolf</i>	493 [C]
ADP: Baseline analysis of the acoustic emission of induction furnaces <i>A. Skowronek and S. Buckert</i>	495 [C]

Tuesday, 24 March 2009, 14:00

Tire-road noise

Structured session (organisation: W. Kropp, Y. Wijnant)

A Ring-based Tyre Model for the Prediction of Structure-borne Interior Tyre/Road Noise <i>P. Kindt, P. Sas and W. Desmet</i>	498 [I]
Contributions to a Better Understanding of Tire Cavity Noise <i>C. Bederna and E.-U. Saemann</i>	502 [I]
Road Traffic Noise of Expansion Joints - Get a Grip on it <i>W.-J. van Vliet, J. Hooghwerff, N. Booij and R. van Loon</i>	506 [C]
Uncertainty of Close-Proximity (CPX) tyre-road noise measurements - Round Robin test results <i>F. de Roo, J. Telman, G. van Blokland, H. van Leeuwen, J. Reubaet and W.-J. van Vliet</i>	510 [I]
Silent Road Trafic 2 <i>W. Bartolomaeus</i>	514 [C]
DEUFRAKO 'Prediction and Propagation of Rolling Noise' <i>M. Auerbach and M. Bérengier</i>	518 [C]
On Solving the Tyre-Road Contact Problem at High Frequencies <i>Y. Wijnant, J.H. Schutte and A. de Boer</i>	522 [I]

Tuesday, 24 March 2009, 14:00

Variable acoustics

Structured session (organisation: E. Mommertz, R. van Luxemburg)

Variable Acoustics means Variation of Reverberation Time - does it? <i>B. Kok</i>	524 [I]
Developments in the Acoustic Design of Theatres with Natural Variable Acoustics <i>M. Luykx, M. Vercammen and R. Metkemeijer</i>	528 [C]

TABLE OF CONTENTS - VOLUME I

Acoustics of Muziekkwartier Enschede (NL) <i>N. Janssen and L. van Luxemburg</i>	532 [I]
Relationship between room shape and Early Lateral Energy Fraction in rectangular concert halls <i>A.K. Klosak and A.C. Gade</i>	536 [C]
Variability and Adaptability of the Acoustics in the new Conservatory of Amsterdam <i>P. Heringa, D. Isbrücker and M. Valk</i>	540 [I]
Creating Temporary Venues for High Demanding Classical Concerts using a Room Enhancement System <i>G. Engel and M. Blome</i>	544 [I]
New parameters for acoustic absorption <i>C. Mulder</i>	546 [C]
Large scale in situ acoustic reflection measurements in a theatre <i>E. Tijss, H.-E. de Bree and E. Brando</i>	549 [C]
A Comparison of the Variable Acoustics of Two Foley Studios for Sound Effects Recording <i>R. Wenmaekers and C. Hak</i>	553 [C]

Tuesday, 24 March 2009, 17:00

Vehicle acoustics

SEA vehicle model for rolling- and engine noise <i>F. Nentwich, T. Bartosch and G. Müller</i>	557 [C]
Vehicle noise reduction of multiple load cases using vibro-acoustic potential analysis <i>F. Nentwich, T. Bartosch and G. Müller</i>	561 [C]
Acoustic Challenges of Rolling Bearings in Combustion Engines <i>P. Genender, K. Wolff and C. Steffens</i>	565 [C]

TABLE OF CONTENTS - VOLUME II

Lectures (Wednesday)

Wednesday, 25 March 2009, 15:00

Active noise control 1

Structured session (organisation: A. Jakob, R. Schirmacher, P. Sas)

Active Exhaust Silencers for Internal Combustion Engines <i>J. Krüger, M. Pommerer and R. Jebasinski</i>	567
[I]	
Iterative learning control for an active exhaust noise attenuation valve for internal combustion engines <i>R. Boonen, G. Pinte, W. Desmet and P. Sas</i>	569
[I]	
Practical Approach for Application of Impedance Control for Noise Attenuation <i>M. Sobon, S. Böhme and D. Sachau</i>	573
[C]	
Active absorption systems: Study and implementation of an adaptive control procedure. <i>M. Norambuena, A. Jakob and M. Möser</i>	577
[C]	
Reduction of Interior Noise in an Automobile Passenger Compartment by Means of Active Structural Acoustic Control (ASAC) <i>M. Misol, S. Algermissen, H.P. Monner and A. Naake</i>	580
[C]	
A Three-Dimensional Acoustic Simulation for the Development and Evaluation of Active Noise Control Systems using the FDTD Method <i>C. Kleinhenrich, A. Niepenberg, T. Weigler and D. Krahé</i>	584
[C]	
Broadband Active Noise Control Around Human's Head - Determination and Achievement of Physical Limits <i>T. Kletschkowski and D. Sachau</i>	588
[C]	

Wednesday, 25 March 2009, 15:00

Aeroacoustics on vehicles

Structured session (organisation: M. Helper, M. Hirschberg, B.-J. Boersma)

Investigations of Sunroof Buffeting <i>J. Ocker</i>	592
[I]	
A Procedure to Simulate the Turbulent Noise Interior of Cars <i>S. Krampol, M. Riegel and J. Wiedemann</i>	596
[I]	
Towards Industry-Standard Flow-Induced Noise Prediction <i>G. Guilloud, P. Martinez, J. Golliard and C. Schram</i>	599
[I]	
A hybrid method for Computational Aeroacoustic applied to internal flows <i>M. Piellard and C. Baily</i>	603
[I]	

Wednesday, 25 March 2009, 8:40

Audio Technology

Classification of Reverberant Acoustic Situations <i>J. Schröder, T. Rohdenburg, V. Hohmann and S.D. Ewert</i>	606
[C]	
Crosstalk Cancellation in audiology <i>A. Winkler, T. Brand and B. Kollmeier</i>	610
[C]	

TABLE OF CONTENTS - VOLUME II

Measurement, modelling and compensation of nonlinearities in hearing aid receivers <i>T. Schaeer, S.D. Ewert, J. Anemüller and B. Kollmeier</i>	614 [C]
Audio Event Detection for In-Home Care <i>P. van Hengel and J. Anemüller</i>	618 [C]

Wednesday, 25 March 2009, 10:40

Bio-acoustics

A Three Dimensional Model of the Organ of Corti of the Guinea Pig <i>J. Baumgart, M. Fleischer, R. Gärtner and A. Voigt</i>	621 [C]
Acoustic Streaming in a Viscous Fluid-Structure System <i>F. Böhnke and C. Gerstenberger</i>	623 [C]
On two possible mechanisms for call directionality steering in the rufous horseshoe bat, Rhinolophus Rouxi <i>F. de Mey, D. Vanderelst and H. Peremans</i>	625 [C]

Wednesday, 25 March 2009, 8:40

Boundary Elements 1

Structured session (organisation: H. Brick, M. Ochmann, R. Piscoya, H. van der Auweraer)

Simulation of transient sound radiation using the Time Domain Boundary Element Method <i>M. Stütz and M. Ochmann</i>	629 [I]
TD-BEM for Sound Radiation in three Dimensions and the Numerical Evaluation of Retarded Potentials <i>M. Maischak, E. Ostermann and E.P. Stephan</i>	633 [I]
Auralization of noise recordings behind a simulated noise barrier <i>H. Waubke, Z. Chen and W. Kreuzer</i>	637 [I]
Separation of acoustic and hydrodynamic components of the velocity for a CFD-BEM hybrid method <i>R. Piscoya and M. Ochmann</i>	641 [I]
Benchmarking for sound transmission and scattering from thin elastic structures using analytical, BE and FE coupling methods <i>R. Burgschweiger, I. Schäfer, R. Piscoya and M. Ochmann</i>	645 [I]
Point-source-scattering from tyre-like structures above an impedance plane <i>H. Brick, M. Ochmann and W. Kropp</i>	649 [I]
Calculation of Head Related Transfer Functions of bats using the Boundary Element Method <i>P. Juhl, V. Cutanda Henriquez and D. Vandereelst</i>	653 [I]
Brief Comparison of Kirchhoff-Helmholtz-BEM and Acoustical Energy BEM for Exterior Domains <i>E. Sarradj</i>	657 [I]

Wednesday, 25 March 2009, 15:00

Boundary Elements 2

Structured session (organisation: H. Brick, M. Ochmann, R. Piscoya, H. van der Auweraer)

Fluid structure interaction and non-local admittance boundary conditions: Setup of an analytical example <i>S. Marburg and R. Anderssohn</i>	661 [I]
Numerical simulation of the sound-emission of truck delivery for supermarkets <i>K. Schirmer and S. Langer</i>	663 [I]
Vibroacoustic characterization of flexible hoses for air conditioning systems <i>A. Agnani, F. Angelini, M. Martarelli and E.P. Tomasini</i>	665 [I]

TABLE OF CONTENTS - VOLUME II

Numerical design and testing of a sound source for secondary calibration of microphones using the Boundary Element Method	669
<i>V. Cutanda Henriquez, P. Juhl and S. Barrera Figueroa</i>	[I]
Ducted Fan Noise Propagation Using Boundary Element Methods	673
<i>C. Schram and M. Tournour</i>	[I]
BEM-model to simulate the vibrations in a tunnel in layered orthotropic media	677
<i>G. Rieckh, W. Kreuzer and H. Waubke</i>	[C]

Wednesday, 25 March 2009, 8:40

Building acoustics 1

Comparison of artificial and natural rainfall	681
<i>K. Naßhan</i>	[I]
The Use of Reciprocity in determining Rainfall Noise	685
<i>N. Geebelen and H. Cauberg</i>	[C]
A simplified measurement method for the determination of impact sound reduction	689
<i>M. Sommerfeld</i>	[C]
Technical aspects in the qualification of free-field environments	693
<i>C. Bethke and V. Wittstock</i>	[C]
How to improve the accuracy of the absorption measurement in the reverberation chamber?	697
<i>M. Vercammen</i>	[C]
Measurement of sound insulation in laboratory - comparison of different methods	701
<i>L. Weber, H. Schreier and K.-D. Brandstetter</i>	[C]
Measuring Sound Insulation under Extreme Conditions using Deconvolution Techniques	705
<i>N. van Hout, C. Hak, E. Slaat and E. Gerretsen</i>	[C]
Room Acoustics, Sound Insulation Design and Supervision for a Multimodal Measuring Laboratory	709
<i>A. Roy and J. Landgraf</i>	[C]

Wednesday, 25 March 2009, 17:40

Cavitation 1

Structured session (organisation: C. Koch, D. Lohse)

Bubble Motion and Jetting at Sonotrodes	712
<i>T. Nowak, R. Mettin and W. Lauterborn</i>	[C]
Bubble-Shock Wave Interaction	715
<i>M. Alizadeh, T. Kurz, D. Kröniger and W. Lauterborn</i>	[C]

Wednesday, 25 March 2009, 15:00

Flow acoustics

Modelling Sound Level and Pressure Loss in HVAC Duct Networks using a Framework in Modelica/Dymola	717
<i>H. Kühnelt, A. Haumer, T. Bäuml, U. Reisenbichler, C. Reichl and G. Karlowatz</i>	[C]
Sound Generation and Propagation with the Nonlinear EIF-Approach	721
<i>O. von Estorff, M. Markiewicz and T. Michels</i>	[C]
Identification of a Low-Frequency Sound Source in an Aircraft Engine Test Stand	723
<i>W. von Heesen, A. Péus and R. Grüner</i>	[C]
Retarded-time source field analysis of vortex-pairing noise	725
<i>F. Margnat</i>	[C]

TABLE OF CONTENTS - VOLUME II

Analysis of the Flow Field of Rotating Milling Cutters in Idle Mode <i>L. Groß and U. Heisel [C]</i>	729
Broadband noise investigation on rod-airfoil-configurations <i>J. Giesler and E. Sarradj [C]</i>	731
Silent owl flight: experiments in the aeroacoustic wind tunnel <i>T. Geyer, E. Sarradj and C. Fritzsche [C]</i>	734
Acoustic Modal Analysis using CFD <i>M. Caraeni and M. Oswald [C]</i>	737

Wednesday, 25 March 2009, 15:00

Low frequency noise

Structured session (organisation: D. Krahé, W. Soede)

An acoustic vector based approach to locate low frequency noise sources in 3D <i>H.-E. de Bree, C. Ostendorf and T. Basten [C]</i>	741
Vibroacoustics and sound emission characteristics of thin-walled, oil-immersed transformer vessels <i>M. Ertl and H. Landes [C]</i>	744
Determination of structure-borne noise based on the vibration signal <i>T. Meloni [I]</i>	748
Finding the source of Low Frequency Noise by measuring ground born vibrations <i>G. Busscher and C. Ostendorf [C]</i>	750
Investigation on Auditory Cortex Activation by Low-Frequency Sound and Infrasound Using Magnetic Resonance Imaging: Stimulus Generation and Control, and Noise Assessment <i>J. Hensel, E. Dommes and G. Scholz [C]</i>	753
Reflection of LFN Perception on an Auditory Model <i>D. Krahé [I]</i>	757

Wednesday, 25 March 2009, 8:40

New aspects of transferpath analysis

Structured session (organisation: K. Becker, H. van der Auweraer)

Transfer Path Analysis - a Review of 18 years of Practical Application <i>T. Ahlersmeyer [I]</i>	761
Innovative Approaches to Fast Transfer Path Analysis <i>H. van der Auweraer, P. Gajdatsky, K. Janssens, P. Mas and L. Gielen [I]</i>	764
Path Analysis <i>F.X. Magrans [I]</i>	768
Methods for the Transfer Path Analysis <i>T. Stichling, M. Quickert and W. Foken [I]</i>	772
Application of Operational Transfer Path Analysis on a Classic Car <i>D. de Klerk, M. Lohrmann, M. Quickert and W. Foken [I]</i>	776
Characterizing Tire and Wind Noise Using Operational Path Analysis <i>R. Sottek and B. Philippen [I]</i>	780
Quantification of the Equivalent Sources of Different Tire Noise Models by means of the ASQ Technique <i>D. Berckmans, P. Sas and W. Desmet [I]</i>	784
Experimental Transfer Path Analysis on Helicopters <i>E. Mucchi and A. Vecchio [I]</i>	788

TABLE OF CONTENTS - VOLUME II

Practical Measurement of Transfer Functions using Volume Velocity Sources <i>A. Schuhmacher</i>	792
<i>[I]</i>	

Wednesday, 25 March 2009, 8:40

Noise at workplace

Structured session (organisation: R. Paulsen, J. Granneman)

The Calculation of Sound Propagation in Rooms to determine Noise Exposure at Workplaces <i>W. Probst</i>	796
<i>[I]</i>	
The new electronic report of noise-exposure-measurements and audiometric-examinations in the AUVA <i>W. Wahler, K. Körpert and A. Gaafar</i>	798
<i>[C]</i>	
Web-based Toolbox Noise and Provisions in Metal Working Industry <i>J. Granneman and J. van Hees</i>	801
<i>[I]</i>	
The Relevance of the Peak Sound Pressure Level to the Assessment of Industrial Workplaces <i>J.H. Maué</i>	805
<i>[I]</i>	
Problems of the real world sound attenuation of hearing protectors with respect to the peak sound pressure level <i>P. Sickert</i>	808
<i>[I]</i>	
Methods for the determination of individual sound attenuation of ear plugs <i>S. Dantscher</i>	812
<i>[I]</i>	
Earprotection Project Military Music <i>M. Logar-Holzer, M. Emich, W. Wahler, C. Gruber, A. Graf-Langheinz, S. Spendelhofer</i>	815
<i>[C]</i>	
Safe and Sound - Exposure Control for Workers in Music and Entertainment <i>G. Brockt</i>	820
<i>[I]</i>	
Evaluation Of Acoustical Suitability Of Lecture Rooms With Respect To The Quality Of The Sound Reinforcement System And The Level Of Background Noise <i>M. Horvat, H. Domitrovic and S. Grubeša</i>	824
<i>[C]</i>	

Wednesday, 25 March 2009, 15:00

Noise control 1

A View on Geometry of Noise Barrier Edges <i>J. Kokavec and M. Möser</i>	828
<i>[C]</i>	
In-situ measurements of road barriers made of natural stones <i>A. Isele, G. Höfker and C. Nocke</i>	832
<i>[C]</i>	
Noise Reducing Devices: an Austrian Experience with the new European Technical Specification for Measurements of in-Situ Sound Diffraction <i>M. Conter and M. Haider</i>	836
<i>[C]</i>	
Concepts of Global Noise Control in Cabins <i>J. Greßkowski, D. Sachau and S. Böhme</i>	840
<i>[C]</i>	
Investigation of the Sound Transmission of a Partial Discharge through a Solid Dielectric Multilayered Device <i>U. Buchholz and B.A.T. Petersson</i>	844
<i>[C]</i>	
Whistling Building Objects, Origins and Solutions <i>J. Granneman, M. Trooster, E. de Beer and T. van Diepen</i>	847
<i>[C]</i>	
Traffic Noise Annoyance on Roads and Rail (TNAR) in an experimental laboratory setup <i>M. Cik, K. Fallast, R.B. Raggam, E. Marth, E. Gallasch, A. Lackner and M. Fellendorf</i>	851
<i>[C]</i>	

TABLE OF CONTENTS - VOLUME II

Wednesday, 25 March 2009, 9:20

Physics of musical instruments 1

Structured session (organisation: R. Bader, C. Nederveen)

Reconstructing the Lituus: A Reassessment of Impedance, Harmonicity, and Playability <i>A. Apostoli, S. Logie, A. Myers, J. Kemp, J. Chick and A. Braden</i>	854 [C]
The Aubrapan: Revival of a lost invention <i>S. Maloney, C.A.C. Imbert and A.G. Bryan</i>	858 [C]
Embouchure Control of Brassiness at Constant Pitch and Dynamic Level in Orchestral Horn Playing <i>L. Norman, J. Chick, M. Campbell and A. Myers</i>	862 [C]
Effect of the structural dynamics of the bocal on the sound spectrum of a bassoon <i>T. Grothe, J. Baumgart and R. Grundmann</i>	866 [I]
Mode coupling in the sound generation in wind instruments <i>C.J. Nederveen</i>	869 [C]
Modal analysis of a recorder: Experiment and simulation <i>F. Möbius, J. Gier, T. Grothe and S. Marburg</i>	873 [I]
Human Voice - a Sparse, Meaningful and Capable Representation of Sounds <i>R. Mores</i>	875 [I]

Wednesday, 25 March 2009, 15:00

Physics of musical instruments 2

Structured session (organisation: R. Bader, C. Nederveen)

Nonlinearities in wind instruments at the example of organ pipes <i>M. Abel and K. Ahnert</i>	879 [I]
Frequency domain simulation of a Scottish bagpipe chanter with different tapers using the Harmonic Balance Method <i>S. Carral and C. Vergez</i>	882 [C]
Characteristic Tones and Modes of a Church Bell <i>H. Fleischer</i>	886 [I]
Transient behaviour in the motion of the brass player's lips during a lip-slur <i>S. Logie, S. Stevenson, A. Apostoli, J. Chick and M. Campbell</i>	889 [C]
Brass wind instruments: can the three dimensional motion of the lips account for the 'brassy' sound? <i>S. Stevenson, M. Campbell and J. Chick</i>	893 [C]
Resonance frequencies and sound radiation of musical woodwind instruments <i>A. Richter and R. Grundmann</i>	897 [I]

Wednesday, 25 March 2009, 15:00

Quality classes in buildings

Structured session (organisation: C. Burkhart, E. Gerretsen)

Sound Classification of Dwellings - Comparison of Schemes in Europe <i>B. Rasmussen</i>	900 [I]
DEGA Sound insulation certificate - a concept for more transparency <i>C. Burkhart</i>	904 [I]
Model-based Assessment Scheme for Acoustic Quality Classes in Buildings <i>E. Gerretsen</i>	908 [I]
About Speech Intelligibility depending on different Sound Insulations <i>H. Alphei and T. Hils</i>	912 [I]

TABLE OF CONTENTS - VOLUME II

Certified sound insulation of different building elements <i>W. Beentjes</i> [I]	916
Determination of the uncertainty of predicted values in building acoustics <i>V. Wittstock and W. Scholl</i> [C]	920

Wednesday, 25 March 2009, 8:40

Railway noise 1

Structured session (organisation: D. Windelberg, M. Dittrich)

Assessment of track related noise mitigation measures <i>M. Kalivoda</i> [I]	924
The UIC-project Noise Impact of Composite Brake Blocks (Nicobb) <i>N. Meunier, F. Létourneau and C. Cremezi-Charlet</i> [C]	926

Wednesday, 25 March 2009, 8:40

Room acoustics 1

Acoustical environment in open-space offices - How to achieve the field of confidence? <i>S.A. Fischer and E.-J. Völker</i> [C]	929
Investigations on room acoustical parameters for open-plan offices <i>U. Schanda, E. Schroeder and S. Wulff</i> [C]	933
Balanced acoustics in class rooms of schools variation of ceiling properties and absorber dimensions <i>A. Niermann and A. Sprenger-Pieper</i> [C]	935
Room acoustics in schools - Experiences using DIN 18041 <i>W. Teuber</i> [C]	939
Early decay development in inside and outside reverberating spaces <i>B. Janssen</i> [C]	943
Room Acoustic Scale Model Measurements Using a "Spark Train" <i>C. Hak and K. Bijsterbosch</i> [C]	946
Methods to characterize the acoustic properties of periodic surfaces <i>K. Hengst, H. Drotleff, R. Wack and M. Blau</i> [C]	949
Evaluation of the sound field in small fitted enclosures in the modal range <i>F.B. Konkel and B.A.T. Petersson</i> [C]	953
Acoustical Survey of 25 European Concert Halls <i>K.-H. Lorenz-Kierakiewitz and M. Vercammen</i> [C]	957

Wednesday, 25 March 2009, 15:00

Room acoustics 2

How to discuss the uncertainties in room acoustic measurements <i>I. Witew and R. Vitale</i> [C]	961
Model for assessing the influence of an omnidirectional source's directivity in room acoustics measurements <i>R. Vitale</i> [C]	963
A semi-analytical model for rooms with absorptive boundary conditions <i>M. Buchschmid, G. Müller and M. Pospiech</i> [C]	967
A Passive Method for the Determination of Acoustical Parameters in Occupied Rooms <i>R. Pieren</i> [C]	971

TABLE OF CONTENTS - VOLUME II

Investigation of Scattering Coefficient of Everyday Furniture <i>R. Vitale and D. Schröder</i> [C]	974
Estimation of the Optimum System Delay for Speech Dereverberation by Inverse Filtering <i>S. Goetze, M. Kallinger, A. Mertins and K.-D. Kammeyer</i> [C]	976
The renovation of De Doelen Concert Hall <i>M. Vercammen and M. Lautenbach</i> [C]	980

Wednesday, 25 March 2009, 8:40

Sound quality and soundscapes

Structured session (organisation: A. Fiebig, D. Botteldooren)

Psychoacoustic Evaluation of Traffic Noise <i>A. Fiebig, S. Guidati and A. Goehrke</i> [I]	984
Acoustical Categorization of Urban Public Places by Clustering Method <i>M. Rychtarikova and G. Vermeir</i> [I]	988
Soundscape characterization in the city of Bilbao <i>G. Memoli, I. Garcia and I. Aspuru</i> [I]	992
DARES-G1: Database of Annotated Real-world Everyday Sounds <i>M. van Grootel, T. Andringa and D. Krijnders</i> [I]	996
Speech Communication in Outdoor Soundscapes <i>B. Davies, P. Mahnken and C. Plack</i> [I]	1000
Is there a necessity for noise caused by motor bikes? <i>U. Ritterstaedt</i> [C]	1004
Footprint of a vehicle - the Swiss Contribution for noise of heavy road traffic <i>I. Schlachter, K. Heutschi and L.D. Poulikakos</i> [C]	1006
Background noise: an increasing environmental problem <i>J. Jabben, D. Bergmans, E. Schreurs and T. Koeman</i> [C]	1009

Wednesday, 25 March 2009, 8:40

Source identification 1

Structured session (organisation: A. Gerlach, B. Roozen)

Source Identification and Noise Reduction of a Reciprocating Compressor at Grasso <i>B. Roozen, J. van den Oetelaar, A. Geerlings and T. Vliegenthart</i> [I]	1013
Comparision of various Array Geometries with Respect to their Depth of Field for acoustic Mappings <i>O. Jaeckel, R. Schröder and D. Döbler</i> [I]	1016
Source Identification in Practice, Two Cases with Tonal Noise <i>T. Campmans</i> [I]	1020
Estimating the velocity profile and acoustical quantities of a harmonically vibrating membrane from on-axis pressure data <i>R. Aarts and A.J.E.M. Janssen</i> [I]	1023
Spectral Analysis of Audio Signals for the Identification of Spam Over IP Telephony <i>C. Pörschmann and H. Knospe</i> [C]	1027
Using the Fast Multipole Boundary Element Method to Update Loads in System Level SEA Models <i>T. Connelly, J. Cordioli, V. Cotoni, S. Müller and A. Wilson</i> [C]	1030
Methods for the identification of background noises and noise events <i>D. Hemmer, C. Pörschmann and P. Korte</i> [C]	1033

TABLE OF CONTENTS - VOLUME II

Noise Source Identification in a Cross-Section of a Long-Range Airliner by Means of the Inverse Finite Element Method <i>M. Weber, T. Kletschkowski and D. Sachau</i>	1035 [C]
--	-------------

Wednesday, 25 March 2009, 15:00

Source identification 2

Structured session (organisation: A. Gerlach, B. Roozen)

Scalable Microphone Array System Optimized for Streaming Inverse Acoustics <i>J. Kauffman</i>	1039 [I]
Source Localization Techniques with Acoustic Arrays <i>H. van der Wal and P. Sijtsma</i>	1043 [I]
Noise induced vibration of a thin projection screen? <i>B. Roozen and L. Yperlaan</i>	1047 [I]
Contribution of stiffeners to the sound transmission of aircraft skin panels <i>J. Wind, A. Bronsvoort and A. de Boer</i>	1051 [I]
Inverse Determination of Ship Propeller Source Strength <i>E. van Wijngaarden</i>	1055 [I]
Three-dimensional Beamforming considering the Effects of covered Microphones <i>O. Jaeckel, D. Döbler, R. Schröder and A. Meyer</i>	1058 [I]
Near field sound source signal separation using a single acoustic particle velocity vector sensor <i>E. Druyvesteyn, J. Wind and M. Ligtenberg</i>	1061 [I]

Wednesday, 25 March 2009, 8:40

Spatial audio 1

Structured session (organisation: S. Spors, D. de Vries)

The Perception of System Latency in Dynamic Binaural Synthesis <i>A. Lindau</i>	1063 [I]
Timbral Coloration in High Resolution Sound Field Reproduction Due to Spatial Bandwidth Limitation <i>J. Ahrens and S. Spors</i>	1067 [I]
Quality Evaluation of Ambisonics Recordings <i>J.-M. Batke</i>	1071 [I]
Externalization in data-based Binaural Synthesis: Effects of Impulse Response Length <i>F. Völk</i>	1075 [C]
Sound Synthesis and Spatial Reproduction by Physical Modeling <i>A. Müller and R. Rabenstein</i>	1079 [I]
Qualitative evaluation of Wave Field Synthesis with expert listeners <i>A. Pras, E. Corteel and C. Guastavino</i>	1083 [I]
Analysis of Enclosed Sound Fields using Multichannel Impulse Response Measurement <i>M. Strauß, J. Nowak and D. de Vries</i>	1087 [I]
Binaural Sky - Examination of Different Array Topologies <i>K. Laumann, G. Theile and H. Fastl</i>	1090 [C]
Adaptive Adjustment of the "Sweet Spot" to the Listener's Position in a Stereophonic Play Back System - Part 1 <i>S. Merchel and S. Groth</i>	1093 [C]

TABLE OF CONTENTS - VOLUME II

Wednesday, 25 March 2009, 15:00

Spatial audio 2

Structured session (organisation: S. Spors, D. de Vries)

Binaural Monitoring of Massive Multichannel Sound Reproduction Systems Using Model-Based Rendering <i>M. Geier, J. Ahrens and S. Spors</i> [I]	1096
A Sound Reproduction System for Spatial Audio in a Driving Simulator <i>D. Leekschat and P. Pogscheba</i> [I]	1099
Spherical Array Systems - On the Effect of Measurement Errors in Terms of Perceived Auralization Quality <i>F. Melchior, Z. Kuang, D. de Vries and S. Brix</i> [I]	1103
Sampling Strategies for Acoustic Holography/Holophony on the Sphere <i>F. Zotter</i> [I]	1107
Adaptive Adjustment of the "Sweet Spot" to the Listener's Position in a Stereophonic Play Back System - Part 2 <i>S. Groth and S. Merchel</i> [C]	1111
Efficient Parametric Audio Coding for Interactive Rendering: The Upcoming ISO/MPEG Standard on Spatial Audio Object Coding (SAOC) <i>L. Terentiev, C. Falch, O. Hellmuth and J. Herre</i> [C]	1115
The Effect of Envelope Waveform on Lateralization <i>M. Klein-Hennig, M. Dietz, S.D. Ewert and V. Hohmann</i> [C]	1119

Wednesday, 25 March 2009, 8:40

Speech in car 2

Structured session (organisation: G. Klasmeyer, H.-W. Gierlich, J. Verhave)

Application of the Binaural Speech Intelligibility Model for prediction of intelligibility in in-car noise <i>R.-L. Fischer, S. Meyer, J. Otten and C. Meinecke</i> [I]	1122
A Comparison of Instrumental Measures for Wideband Speech Quality Assessment of Hands-free Systems in Echoic Condition <i>K. Steinert, S. Suhadi and T. Fingscheidt</i> [I]	1126
About the Measurement of the Hands-Free Transmission Quality - An Experience Report <i>H. Pastillé and M. Herrenkind</i> [I]	1130
Automatic Evaluation of In-Car Communication Systems <i>A. Wolf, T. Haulick and G. Schmidt</i> [I]	1133
Psychoacoustic Evaluation of Music Reproduction in Passenger Cars <i>H. Fastl, M. Ammler and A. Sulowski</i> [C]	1137
Navigation System: An Experiment <i>T. Nestorovic</i> [C]	1140

Wednesday, 25 March 2009, 11:20

Speech perception 1

Structured session (organisation: S. Möller, J. Beerends)

PESQ Based Speech Intelligibility Measurement <i>J. Beerends, R. van Buuren, J. van Vugt and J.A. Verhave</i> [I]	1144
Feature Decomposition and Modeling of Speech Quality for Various Wideband Conditions <i>M. Wältermann, A. Raake and S. Möller</i> [I]	1147

TABLE OF CONTENTS - VOLUME II

Wednesday, 25 March 2009, 15:00

Speech perception 2

Structured session (organisation: S. Möller, J. Beerends)

Attribute-based Instrumental Assessment for Speech- Transmission Quality <i>L. Huo and U. Heute [C]</i>	1149
Intelligibility Assessment Method for Semantically Unpredictable Sentences in German <i>J.-P. Ramirez, A. Raake and D. Reusch [I]</i>	1153
New developments in VoIP testing <i>N. Rohrer, S. Poschen and F. Kettler [I]</i>	1157
Performance of Instrumental Speech Quality Measures for Next Generation Wireless Networks <i>B. Lewcio, M. Wältermann, P. Vidales, A. Raake and S. Möller [I]</i>	1161
Evaluation of aurally-adequate analyses for echo assessment <i>F. Kettler, M. Lepage and M. Pawig [I]</i>	1164
Quality Prediction for Synthesized Speech: Comparison of Approaches <i>S. Möller and T.H. Falk [C]</i>	1168
Comparison of Spectrum-based Models for Speech and Audio Quality and Naturalness Estimation <i>A. Raake, M. Wältermann, B.C.J. Moore and C.-T. Tan [C]</i>	1172
Measurements of Sound Localization Performance and Speech Quality in the Context of 3D Audio Conference Calls <i>M. Hyder, M. Haun and C. Hoene [I]</i>	1176

Wednesday, 25 March 2009, 8:40

Tram noise

Structured session (organisation: F. Krüger, A. van Leuven)

Reduction of Squeal Noise by Damping of Wheels <i>U. Lenz [I]</i>	1180
Squeal noise mitigation in urban rail surface transport <i>A. van Leuven [I]</i>	1183
Is squeal noise really not to be predetermined <i>H. Venghaus [I]</i>	1186
Numerical Method for the Prediction and the Assessment of Rolling and Curving Noise <i>A. Groß-Thebing and H. Zimmer [I]</i>	1190
Active Attenuation of Squeal Noise at Train Wheels <i>H. Siebald, H. Fehren, M. Schiedewitz, A. Cigada, S. Manzoni and M. Redaelli [I]</i>	1193
Influence of impurities between train wheels and wheel damper on the effectiveness of the damper <i>M. Fehndrich [C]</i>	1197
Squeal Noise - Long Time Examination of Stochastically Occurrence on Tramways passing Curves <i>P. Fürst and M. Dybek [C]</i>	1200
Curve noise: research without an end? <i>F. Krüger [C]</i>	1204

TABLE OF CONTENTS - VOLUME III

Lectures (Thursday)

Thursday, 26 March 2009, 9:40

Active noise control 2

Structured session (organisation: A. Jakob, R. Schirmacher, P. Sas)

Feedback Control for Active Noise Reduction in Headsets <i>J. Graf and E. Reithmeier</i>	1208
[C]	
Robust Parameter Design of an Adaptive Multiple-Channel Active Noise Controller <i>K. Kochan and D. Sachau</i>	1212
[C]	
Active Structural Control of Impacts with a View Towards Noise Control <i>C. Hoever, W. Kropp and B.A.T. Petersson</i>	1216
[C]	
The Design and the Application of Fiber-Optic Microphones for Acoustic Measurements in Hot Environments <i>H.J. Konle, I. Roehle and C.O. Paschereit</i>	1220
[C]	
Active control of the sound transmission through a double-glazing window <i>J. Bös, S. Herold, O. Heuss, M. Kauba and D. Mayer</i>	1224
[C]	
LOEWE-Zentrum AdRIA - An important step towards the commercialization of adaptive systems <i>J. Bös, T. Bein and H. Hanselka</i>	1228
[C]	

Thursday, 26 March 2009, 8:40

Aeroacoustics 1

Structured session (organisation: S. Becker, S. Rienstra)

Aeroacoustic Prediction and Measurements of Jet-Airfoil Interaction Noise <i>J. Christophe, C. Schram and M. Tournour</i>	1232
[I]	
Slat Noise Source Identification for a High-Lift Configuration <i>D. König, S.R. Koh, W. Schröder and M. Meinke</i>	1236
[I]	
Aeroacoustics taking Fluid-Structure Interaction into Account <i>M. Kaltenbacher, S. Becker, J. Grabinger and F. Schäfer</i>	1240
[I]	
Extended Multi-Plane Pressure Mode Matching for CFD/CAA Coupling <i>C. Weckmueller, A. Fritzsch and S. Guerin</i>	1244
[C]	
A method based on the ray structure of acoustic modes for predicting the liner performance in annular ducts with flow <i>A. Moreau, S. Guerin and S. Busse</i>	1248
[C]	

Thursday, 26 March 2009, 15:00

Aeroacoustics 2

Structured session (organisation: S. Becker, S. Rienstra)

Broadband Simulation Of Flow-Induced Noise Generation in Air Conditioning Ducts <i>C. Spehr, R. Ewert, T. Ahlefeldt and J. Delfs</i>	1252
[C]	
Experimental and Numerical Characterisation of a Non-Locally Reacting Liner <i>S. Busse, C. Richter, C. Kückens, U. Müller, L. Enghardt and F. Thiele</i>	1254
[C]	

TABLE OF CONTENTS - VOLUME III

Separation of Aero- and Vibroacoustic Noise from a Flexible Structure <i>J. Grabinger, S. Müller and S. Becker</i> [C]	1258
ANC Concept study using a 1-D-Model <i>N. Hoevelmann, D. Sachau and K. Kochan</i> [C]	1262

Thursday, 26 March 2009, 15:00

Audiological acoustics

Predicting the acoustics of individual ears for hearing aid and audio applications - model framework and future work <i>M. Blau, T. Sankowsky, P. Roeske and S. Fischer</i> [C]	1266
Estimation of the Sound Pressure at the Ear Drum for Hearing Aid Applications <i>T. Sankowsky, M. Blau, P. Roeske, H. Mojallal, J. Schroeder, M. Teschner, M. Bokemeyer</i> [C]	1269
Modeling the sound field in front of the human ear drum for hearing aid applications <i>P. Roeske, M. Blau, T. Sankowsky, H. Mojallal, J. Schroeder, M. Teschner, M. Bokemeyer</i> [C]	1272
Comparative simulations of adaptive psychometric procedures <i>S. Otto and S. Weinzierl</i> [C]	1276
Fundamental sound fields in the core region of curved ear canals <i>H. Hudde and S. Schmidt</i> [C]	1280
Features of sound fields within and outside the ear canal <i>S. Schmidt and H. Hudde</i> [C]	1284
Comparison of Speech Intelligibility by EAS, Bimodal, Uni- and Bilateral Cochlear Implant Patients in a 'Multi-Source Noise Field' (MSNF) <i>T. Rader, U. Baumann and H. Fastl</i> [C]	1288

Thursday, 26 March 2009, 8:40

Auditory processing 1

Structured session (organisation: T. Dau, B. Seeber, S. van de Par)

Headphone Reproduction via Loudspeakers using Inverse HRTF-Filters <i>T. Weissgerber, K. Laumann, G. Theile and H. Fastl</i> [C]	1291
A loudspeaker-based room auralisation system for auditory perception research <i>J.M. Buchholz and S. Favrot</i> [I]	1295
Azimuthal Localization of Concurrent Speakers Employing Interaural Coherence <i>M. Dietz, S.D. Ewert and V. Hohmann</i> [I]	1299
The effect of spectral density and bandwidth on the precedence effect <i>B. Seeber</i> [C]	1301
Localisation dominance for long lead-lag stimuli in background noise <i>S. Kerber and B. Seeber</i> [C]	1303

Thursday, 26 March 2009, 15:00

Auditory processing 2

Structured session (organisation: T. Dau, B. Seeber, S. van de Par)

Robust Vowel Detection <i>B. Valkenier, D. Krijnders, R. van Elburg and T. Andringa</i> [I]	1306
Modelling binaural speech recognition <i>T. Brand, R. Beutelmann and B. Kollmeier</i> [I]	1310

TABLE OF CONTENTS - VOLUME III

Hearing Impairment: Benefit of Optimized Beamforming obtained with Hearing Glasses in a Multi-Source Noise Field <i>U. Baumann and T. Rader</i> [I]	1311
Sound localization with and without hearing aids <i>T. van den Bogaert, E. Carette and J. Wouters</i> [I]	1314
BRTF - Body Related Transfer Functions for Whole-Body Vibration Reproduction Systems <i>E. Altinsoy and S. Merchel</i> [C]	1318
Audiotactile Feedback for Touch Screens <i>S. Merchel and E. Altinsoy</i> [C]	1320

Thursday, 26 March 2009, 8:40

Building acoustics 2

Sound Insulation for practice rooms used by rock bands <i>F. Breuer and J. Paprotny</i> [C]	1323
Acoustical characteristics of lightweight solid gypsum walls and their implementation into prediction models <i>A. Ruff and H.-M. Fischer</i> [C]	1325
Sound and vibration transmission through lightweight junctions: Numerical investigation and validation by laboratory tests <i>S. Lentzen, E. Gerretsen, C. van Bentum and S. Bron- van der Jagt</i> [C]	1329
Experimental investigations on the sound transmission of drywall constructions at low frequencies <i>R. Völtl, T. Franzen and U. Schanda</i> [C]	1333
Sound insulation of triple insulating glass units <i>B. Saß</i> [C]	1335
The Sound Insulation of Water <i>R. Wenmaekers, B. van der Aa, A. Pronk, A. Coutinho and L. van Luxemburg</i> [C]	1339
Thermally activated concrete slabs and suspended ceilings <i>H. Peperkamp and M. Vercammen</i> [C]	1342
Reduction of Low-frequency Vibrations of Wooden Floors by Tuned Mass Dampers <i>H. Reichelt, U. Schanda and A. Rabold</i> [C]	1345

Thursday, 26 March 2009, 8:40

Cavitation 2

Structured session (organisation: C. Koch, D. Lohse)

About the Threshold of the Transient Ultrasonic Cavitation in the Cavitation Noise at Different Frequencies <i>C. Jung and R. Sobotta</i> [I]	1348
Comparison of cavitation bubble arrays at different frequencies <i>A. Otto, T. Nowak, R. Mettin, F. Holsteyns and A. Lippert</i> [I]	1350
Space-resolved sonochemistry in cleaning vessels in comparison to mechanical effects <i>C. Kling, C. Koch and K.-V. Jenderka</i> [I]	1354
Ultrasonic Cavitation with Laser-generated Bubbles <i>T. Kurz, D. Kröniger, T. Wilken, L. Wißmann and W. Lauterborn</i> [I]	1357
Density Threshold for Acoustic Cavitation in Water <i>F. Caupin, K. Davitt and A. Arvengas</i> [I]	1359
Properties of Bubbles at Pressure Antinodes in a Standing Sound Field <i>T. Davaadorj, P. Koch, A. Pluta, U. Parlitz and W. Lauterborn</i> [C]	1363

TABLE OF CONTENTS - VOLUME III

Thursday, 26 March 2009, 15:00

Electro-acoustics

Investigations on measurement control and signal processing for the pressure reciprocity calibration of microphones <i>T. Fedtke and T. Rewig</i> [C]	1367
Fast distortion measurements in relation to frequency and level <i>C. Budde and S. Müller</i> [C]	1369
Experimental Study of Interaction between Ultrasonic and Audio Waves in Air <i>T. Merkel</i> [C]	1373
Electro Active Materials for Flat Panel Transducers <i>L. Ehrig, D. Beer and S. Brix</i> [C]	1376

Thursday, 26 March 2009, 8:40

Environmental acoustics 1

Dose-Response-Relationships (DDR) and the Environmental Noise Directive (END) <i>K. Giering</i> [C]	1380
Techniques to Support Noise Maping, Noise Rating and Action Planning <i>W. Probst</i> [C]	1384
Cities cannot solve their Noise Problems solitarily <i>H. Wolfert</i> [C]	1386
QCITY: providing cities validated mitigation measures for noise action plans <i>G. Desanghere</i> [C]	1389
Harmonized Strategies for the Development of Noise Action Plans <i>S. Luzzi and R. Bellomini</i> [C]	1392
New Dutch legislation for motorways, national cost-benefit analysis explained. <i>A. van Beek and A.G.M. Dassen</i> [C]	1395
An estimate of the global exposure to environmental noise <i>P. de Vos</i> [C]	1398
Urban noise mapping in Romania - preliminary results for Iasi city <i>D. Condorachi</i> [C]	1401
A tool for environmental noise control in urban planning: The Population Annoyance Index <i>E. de Ruiter</i> [C]	1404

Thursday, 26 March 2009, 15:00

Environmental acoustics 2

A proposal for an European aircraft noise calculation procedure <i>T. Myck and B. Vogelsang</i> [C]	1408
Calculation of Aircraft Noise Contours in Germany <i>T. Myck and B. Vogelsang</i> [C]	1411
Aircraft noise calculations for relevant periods of day using a complete set of radar data <i>B. Schäffer, S. Plüss, G. Thomann and R. Bütkofer</i> [C]	1414
Health risks by nocturnal aircraft noise - do persons exposed get ill on average? <i>C. Maschke</i> [C]	1418
Continued experimental evaluation of a new approach to aircraft noise modelling <i>D.-J.D. Land, G. Oldenziel, F. van der Eerden and J. Sijs</i> [C]	1420

TABLE OF CONTENTS - VOLUME III

Helicopter detection: a fast computational method for long range sound propagation <i>M. Janssens, E. Salomons and F. van der Eerden</i> [C]	1422
Noise from elevated sound sources - Results of a dedicated measuring campaign <i>M. Trimpop</i> [C]	1426

Thursday, 26 March 2009, 15:00

Localisation of sound sources on vehicles

Structured session (organisation: R. Sottek, B. Roozen)

Capturing a noise source in an interior enclosure <i>F. Deblauwe and M. Robin</i> [I]	1428
Sound Source Localisation with Acoustic Mirrors <i>M. Helfer</i> [I]	1432
Source Localisation with Beamforming in Vehicle Acoustics <i>S. Guidati</i> [I]	1436
Validation of a measurement based Area Contribution Analysis <i>H. Jakob, A. Bocquillet, S. Marburg and H.-J. Hardtke</i> [C]	1440

Thursday, 26 March 2009, 15:00

Modelling in room acoustics

Structured session (organisation: M. Vorländer, D. de Vries)

Reflections At Room Boundaries In Computer Simulation Programs Based On Ray-Tracing <i>M. Lautenbach and M. Vercammen</i> [I]	1444
Investigation of sound diffusion characteristics using scale models in concert halls <i>J.Y. Jeon and Y.H. Kim</i> [I]	1448
Introducing diffraction into beam tracing - some new results <i>U. Stephenson</i> [I]	1452
Optimization of Input Parameters for Real-Time Room Acoustics Simulations <i>D. Schröder</i> [I]	1456
An interactive and real-time based auralization system for room acoustics, implementing directional impulse responses and multiple audio reproduction modules for spatialization (the AURALIAS project) <i>L. Bos and J.-J. Embrechts</i> [I]	1459
Uncertainty in Acoustic Boundary Characterisation and its Influence on the Sound Field in Room Acoustic FE Simulations <i>M. Aretz and J. Knutzen</i> [I]	1463
Auralization examples to discuss the reverberation time as a standard for sports facilities <i>L. Nijs and M. Rychtarikova</i> [C]	1467
Measuring directivities of musical instruments for auralisation <i>M. Pollow</i> [C]	1471

Thursday, 26 March 2009, 8:40

Musical acoustics

An Experimental Musician-Based Study on Playability and Responsiveness of Violins <i>F. von Türcckheim, T. Smit and R. Mores</i> [C]	1474
Modal Testing of a Soprano pan using a 3D Scanning Laser Doppler Vibrometer <i>S. Maloney and R. Traynor</i> [C]	1478

TABLE OF CONTENTS - VOLUME III

Reflection functions of pipes <i>T. Trommer, H. Ausserlechner, J. Angster and A. Miklos</i>	1482 [C]
Measurements on an adjustable pipe foot model <i>H. Ausserlechner, T. Trommer, J. Angster and A. Miklos</i>	1486 [C]
String Vibrato in the Age of Recording; A Wavelet Study <i>S. Mattheij</i>	1490 [C]

Thursday, 26 March 2009, 16:40

Noise

Breaking the Sound Barrier: Why Environmental Noise is Still Not Reduced Properly, and What To Do About It <i>E. Verheijen and J. Jabben</i>	1494 [C]
Flow-induced Sound Radiation from Air-ducting Structures <i>S. Beck and S. Langer</i>	1496 [C]
An in situ method to measure the acoustic absorption of roads whilst driving <i>E. Tijss and H.-E. de Bree</i>	1499 [C]

Thursday, 26 March 2009, 8:40

Noise control 2

Validation of a New Procedure for Rating Shooting Sounds with the Help of Field Survey Data <i>J. Vos</i>	1503 [C]
Noise Management at Civil Shooting Ranges <i>D. Knauss and K.-W. Hirsch</i>	1507 [C]

Thursday, 26 March 2009, 16:40

Physical acoustics

Surface and guided waves in porous materials <i>J. Descheemaeker, L. Boeckx and W. Lauriks</i>	1509 [C]
A source path contribution analysis on tire noise using particle velocity sensors <i>H.-E. de Bree, D. Bekke and J.H. de Vries</i>	1512 [C]
Optimization of lightweight floors in the low frequency range with a FEM based prediction model <i>A. Rabold, A. Düster, J. Hessinger and E. Rank</i>	1514 [I]

Thursday, 26 March 2009, 8:40

Psychoacoustics 2

Structured session (organisation: J. Hellbrück, H. Fastl, T. Houtgast)

Critique of Pure Psychoacoustics <i>J. Blauert and R. Guski</i>	1518 [I]
Cortical processing of auditory motion cue information <i>S. Getzmann and J. Lewald</i>	1520 [I]
Application of Synesthetic Design as multi-sensory Approach on Sound Quality <i>M. Haverkamp</i>	1523 [C]
Auditory capture in an auditory and visual spatial cueing task <i>T. Koelewijn, M. van der Hoeven and A. Bronkhorst</i>	1525 [I]

TABLE OF CONTENTS - VOLUME III

Crying colours and their influence on loudness judgments <i>D. Menzel, T. Dauenhauer and H. Fastl [I]</i>	1528
Hearing and Cognitive Measures Predict Elderly Listeners' Difficulty Ignoring Competing Speech <i>E. Janse [I]</i>	1532
Acoustic Optimization of Rotary Switches <i>A.S. Treiber and G. Gruhler [C]</i>	1536
Cognitive Factors in Speech Perception <i>A. Zekveld, S.E. Kramer and T. Houtgast [I]</i>	1540

Thursday, 26 March 2009, 15:00

Psychoacoustics 3

Structured session (organisation: J. Hellbrück, H. Fastl, T. Houtgast)

Noise reduction for media streams <i>T. Bisitz, T. Herzke, M. Zokoll, A.-M. Öster, S. Al Moubayed, B. Granström, E. Ormel, N. van Son and R. Tanke [C]</i>	1544
Sound Quality Evaluation of Power Seat Adjusters <i>P. Scheibner, A. Zeitler and A. Wendemuth [C]</i>	1547
Psychoacoustics Without Psychology? <i>R. Guski and J. Blauert [C]</i>	1550
Recruiting and Evaluation Process of an Expert Listening Panel <i>A. Sontacchi, H. Pomberger and R. Höldrich [C]</i>	1552
Spatial Sampling Artifacts of Focused Sources in Wave Field Synthesis <i>S. Spors and J. Ahrens [C]</i>	1556

Thursday, 26 March 2009, 8:40

Railway noise 2

Structured session (organisation: D. Windelberg, M. Dittrich)

Calculated Basic Sound Level as a Derivation of Measured Sound Levels of Freight Trains <i>D. Windelberg [I]</i>	1560
Schall 03 1990 versus Schall 03 2006: A Comparison of the Calculation Methods for railway noise with Noise level Measurements <i>U. Möhler, H. Onnich and M. Liepert [I]</i>	1564
Procedure and applications of combined wheel/rail roughness measurement <i>M. Dittrich [I]</i>	1566
Simulation of curve squeal considering the vehicle dynamics <i>D. Frese and T. Kohrs [C]</i>	1569
Statistical Analysis of Railway Noise: How long-term monitoring helps improving short-term measurements <i>E. Verheijen [C]</i>	1572
The project 'Low Noise Train on a Real Track (LZarG)' <i>W. Behr [C]</i>	1575
Standstill Measurements on Open Track <i>M. Tinter, N. Meunier and C. Eichenlaub [C]</i>	1578

TABLE OF CONTENTS - VOLUME III

Thursday, 26 March 2009, 8:40

Signal processing

On the Classification of Acoustic Sequences for Intervention in Essential Hypertension <i>P. Friedrich, T. Kohler and B. Wolf</i> [C]	1580
On the Structure of the Phase around the Zeros of the Short-Time Fourier Transform <i>F. Jaillet, P. Balazs, M. Dörfler and N. Engelputzeder</i> [C]	1584
Signal Component Estimation in Background Noise <i>R. Violanda, H. van de Vooren, R. van Elburg and T. Andringa</i> [C]	1588
Real-time filtering structures for interactive geometry modification in acoustic virtual reality <i>F. Wefers and D. Schröder</i> [C]	1592
Removing Components from a Time-Frequency Representation <i>M. Dörfler, P. Balazs and F. Jaillet</i> [C]	1596
Multi-channel noise reduction for binaural hearing aids by using short-time spectral attenuation combined with noise estimators for non stationary noise <i>S. Franz, J. Bitzer and U. Simmer</i> [C]	1600
How to obtain high quality input data for auralization? <i>P. Dietrich and M. Lievens</i> [C]	1604

Thursday, 26 March 2009, 9:40

Sound propagation

A meteorological-acoustical model: comparison with measurements <i>A. Randriaoelina and F. van der Eerden</i> [C]	1608
General classification scheme for outdoor sound propagation situations <i>K.-W. Hirsch and B. Vogelsang</i> [C]	1612
Inverse reconstruction techniques and their applicability for acoustic travel-time tomography <i>G. Fischer, M. Barth and A. Ziemann</i> [C]	1614
Adapting a sound ray model of the atmosphere to simulate sound propagation in urban environment <i>A. Ziemann and G. Fischer</i> [C]	1618
The Harmonoise sound propagation model: further developments and comparison with other models <i>D. van Maercke and E. Salomons</i> [C]	1622

Thursday, 26 March 2009, 8:40

Source identification 3

Structured session (organisation: A. Gerlach, B. Roozen)

Comparison of Sound-Source Localization Techniques for Vibrating Structures <i>M. Müller-Trapet and P. Dietrich</i> [C]	1626
Acoustic Ground Tests in a Cross-Section of a Long-Range Airliner for Validation of the Inverse Finite Element Method <i>K. Simanowski, T. Kletschkowski, D. Sachau and B. Samtleben</i> [C]	1630

TABLE OF CONTENTS - VOLUME III

Thursday, 26 March 2009, 15:00

Speech

Interactive Fitting-Wizard in a Home Environment <i>H. Baumgartner, A. Schulz, A. Hein, T. Herzke and I. Holube</i>	1633 [C]
Complex Wavelet Based Modulation Analysis of Speech <i>J.-M. Luneau, J. Lebrun and S.H. Jensen</i>	1636 [C]
Speaker Verification Based on Formants Using Gaussian Mixture Models <i>T. Becker, M. Jessen and C. Grigoras</i>	1640 [C]
Is the Fujisaki model a suitable (prosodic) model for the voice-conversion task? <i>J. Schwarz, M. Tran and U. Heute</i>	1644 [C]
Speech Analysis and Synthesis by Time-Varying Lattice Filters <i>K. Schnell and A. Lacroix</i>	1648 [C]
Modeling the speaker-specific F0 Changes caused by raised Vocal Effort <i>C. Harwardt</i>	1652 [C]
Reverberation Time Estimation for Speech Processing Applications <i>H. Loellmann and P. Vary</i>	1655 [C]
A Study of Throat Microphone Performance in Automatic Speech Recognition on Motorcycles <i>T. Winkler, S. Pronkine, R. Bardeli and J. Köhler</i>	1659 [C]

Thursday, 26 March 2009, 11:00

Speech perception 3

Structured session (organisation: S. Möller, J. Beerends)

Consonant Recognition of Listeners with Hearing Impairment and Comparison to Predictions Using an Auditory Model <i>T. Jürgens, T. Brand and B. Kollmeier</i>	1663 [C]
Prediction of Speech Intelligibility in Fluctuating Noise for Listeners with Normal and Impaired Hearing <i>R. Meyer, T. Brand and B. Kollmeier</i>	1667 [C]
Evaluation of Spatial Approaches for Improvement of Patient Speech Acquisition at Magnetic Resonance Tomography Systems <i>M. Friedrich, K. Porzelt, M. Bechtold and P.-C. Eccardt</i>	1671 [C]

Thursday, 26 March 2009, 15:00

Structural-acoustic optimization

Structured session (organisation: J. Bös, D. Fritze, M. Dittrich)

Identification of the Optimal Lay-up for Fibre-reinforced Composite Plates with Minimized Sound Emission <i>M. Dannemann and W. Hufenbach</i>	1675 [I]
Optimization of Multilayered Porous Acoustic Absorbers <i>H. Andrä, M. Kabel, M. Spies and H. Rieder</i>	1679 [I]
Prediction of structure-borne sound and secondary airborne sound by three dimensional finite element models <i>M. Bless and F. Koopmans</i>	1683 [C]
Vibration analysis by means of structure-borne sound intensity (SSI) simulations <i>T. Hering and K. Wolf</i>	1687 [C]
Application of Transmissibility Matrix method to structure borne path contribution analysis <i>D. Tcherniak</i>	1691 [C]

TABLE OF CONTENTS - VOLUME III

Structure-Borne Sound Excitation by Two-Phase Flow in Drainage Pipes <i>R.A. Alzugaray and B.A.T. Petersson</i> [C]	1695
Modeling the Vibro-Acoustic Effect of Trim on Full Vehicle and Component Level Analysis <i>D. Blanchet, M. Anciant and L. Mebarek</i> [C]	1699

Thursday, 26 March 2009, 15:00

Ultrasound

The effects of ultrasonic parameters on pressure fields in a membrane cleaning application <i>F. Reuter, R. Mettin and W. Lauterborn</i> [C]	1703
Advances in Ultrasonic Measurements Using Laser Doppler Vibrometer <i>R. Behrendt and H. Steger</i> [C]	1707
In-line monitoring of polymer extrusion processes with ultrasonic attenuation spectroscopy <i>J. Müller, S. Kummer, K. Sahre and D. Fischer</i> [C]	1709

Thursday, 26 March 2009, 8:40

Voice production 1

Structured session (organisation: M. Döllinger, M. Kob, M. Hirschberg)

Numerical Modelling of Vocal Fold Dynamics by a 3D Multi-Mass-Model <i>A. Yang, J. Lohscheller, M. Stingl, D. Voigt, U. Eysholdt and M. Döllinger</i> [I]	1711
An approach for stable calculation of vocal fold oscillation <i>E. Loch, S. Noelle and M. Kob</i> [I]	1715
Numerical study of the human phonation process by the Finite Element Method <i>S. Zörner, M. Kaltenbacher, G. Link, R. Lerch and M. Döllinger</i> [I]	1718
An approach for numerical calculation of glottal flow during glottal closure <i>A. Gömmel, M. Kob, T. Niendorf and C. Butenweg</i> [I]	1722
Sound Generation in a Flow-Induced Vibrating Human Vocal Folds Model <i>S. Becker, S. Kniesburges, S. Müller and A. Delgado</i> [I]	1726
Human phonation analysis by 3d aero-acoustic computation <i>S. Zörner, M. Kaltenbacher, W. Mattheus and C. Brücker</i> [I]	1730
A model of jet modulation in voiced fricatives <i>A. Barney and P. Jackson</i> [I]	1733
PIV Measurement of Flow-Patterns in a Human Vocal Tract Model <i>J. Horacek, P. Sidlof, V. Uruba, J. Vesely, V. Radolf and V. Bula</i> [I]	1737
Three-Dimensional Unsteady Flow Nature in the Vocal Tract during Human Phonation <i>M. Triep, W. Mattheus, M. Stingl and C. Brücker</i> [I]	1741

Thursday, 26 March 2009, 15:00

Voice production 2

Structured session (organisation: M. Döllinger, M. Kob, M. Hirschberg)

Biomechanical modeling of chest-falsetto registers and their transition <i>I. Tokuda, M. Zemke, M. Kob and H. Herz</i> [I]	1744
Investigation of voice production in death metal singers <i>C. Eckers, D. Hütz, M. Kob, P. Murphy, D. Houben and B. Lehnert</i> [I]	1747
A voice-producing prosthesis for laryngectomized patients <i>J. Tack, H. Marres, C. Meeuwis, E.B. van der Houwen, G. Rakhorst and B. Verkerke</i> [I]	1751

TABLE OF CONTENTS - VOLUME III

Simulation of differences between male and female vocal fold configuration during phonation <i>M. Kob, P. Dejonckere, E. Calderón and S. Kaynar</i>	[I]	1755
Optimizing Material Properties and Geometry of a Physical Multi-Layered Vocal Fold Model <i>B. Schmidt, G. Leugering, M. Döllinger, R. Lerch, M. Kaltenbacher and M. Stingl</i>	[I]	1757
Effects of Vocal Aging on Fundamental Frequency and Formants <i>S. Mwangi, W. Spiegl, F. Höning, T. Haderlein, A. Maier and E. Nöth</i>	[C]	1761